IN THE U.S. PATENT AND TRADEMARK OFFICE

Application No.:	10/621,324
Filing Date:	July 18, 2003
Applicants:	Feihong Chen et al.
Group Art Unit:	2616
Examiner:	Ian N. Moore
Title:	METHODS AND DEVICES FOR RE-ROUTING MPLS TRAFFIC
Attorney Docket:	129250-000979/US

APPELLANTS' BRIEF ON APPEAL

MAIL STOP APPEAL BRIEF - PATENTS
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

February 25, 2008

TABLE OF CONTENTS

APPELLANTS' BRIEF ON APPEAL

I. REAL PARTY IN INTEREST:

The real party in interest in this appeal is Lucent Technologies Inc. Assignment of the application was submitted to the U.S. Patent and Trademark Office and recorded at Reel 014306, Frame 0108.

II. RELATED APPEALS AND INTERFERENCES:

There are no known appeals or interferences that will affect, be directly affected by, or have a bearing on the Board's decision in this Appeal.

III. STATUS OF CLAIMS:

Claims 1, 3-5, 7-9, 11-13, 15-17, 19-21, 23 and 24 are pending in the application, with claims 1, 5, 9, 13, 17 and 21 being written in independent form. Claims 2, 6, 10, 14, 18 and 22 have been canceled.

Claims 1-24 remain finally rejected under 35 U.S.C. §102(e) based on U.S. Patent Application Publication No. 20030147346 to Kanakubo ("Kanakubo"). Claims 1, 5, 9, 13, 17 and 21 remain finally rejected under 35 U.S.C. §102(e) based on U. S. Patent No. 7,167,443 to Dantu ("Dantu"). Claims 1, 3-5, 7-9, 11-13, 15-17, 19-21, 23 and 24 are being appealed.

IV. STATUS OF AMENDMENTS:

An Amendment After Final ("AAF") was filed on December 11, 2007 incorporating features from dependent claims into the independent claims. To the Appellants knowledge, as of the date of this Appeal Brief, no Advisory Action has been mailed. Appellants presume the amendments contained in the AAF will be entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER:

(i). Overview of the Subject Matter of the Independent Claims

The present invention is directed at the re-routing of communications traffic when a failure occurs, for example, along an ingress region of a primary communications path. More specifically, independent claim 1 reads as follows (specification citations in parenthesis):

1. **A network device operable to:**
detect a failure along an ingress region of a primary path (paragraph [0020]);
re-route traffic from the primary path associated with an original Internet Protocol (IP) address to an alternate path, which includes the device using a forwarding table that includes IP and Multi-Protocol Label Switched (MPLS) routing information (paragraph [0020])**while associating the original IP address to the alternate path upon detection of the failure** (paragraph [0020]); **and**
allow traffic to travel along the primary path when the failure is no longer detected (paragraph [0020]).

Independent claim 5 reads as follows:

5. **A network device operable to:**
receive a failure message (paragraph [0020]);
re-route traffic from a primary path associated with an original IP address to an alternate path using a forwarding table that includes IP and MPLS routing information (paragraph [0020]), **said rerouting maintaining the original address, the alternate path comprising devices which maintain a same quality of service as the primary path** (paragraph [0032]) **and are not a part of the primary path except for the network device and a destination network device** (paragraphs [0021], [0031]); **and**
allow traffic to travel along the primary path when the failure is no longer detected (paragraph [0020]).

Independent claim 9 reads as follows:

9. **A method for re-routing traffic comprising the steps of:**
detecting a failure along an ingress region of a primary path (paragraph [0020]);

re-routing traffic from the primary path associated with an original IP address to an alternate path which includes a source device using a forwarding table that includes IP and MPLS routing information while associating the original address to the alternate path upon detection of the failure (paragraph [0020]); **and**

allowing traffic to travel along the primary path when the failure is no longer detected (paragraph [0020]).

Independent claim 13 reads as follows:

13. A method for re-routing traffic comprising the steps of:

receiving a failure message (paragraph [0020]);

after said receiving step, re-routing traffic from a primary path associated with an original IP address to an alternate path using a forwarding table that include IP and MPLS routing information (paragraph [0020]), **said rerouting maintaining the original address, the alternate path comprising devices which maintain a same quality of service as the primary path** (paragraph [0032]) **and are not a part of the primary path except for an initiating network device and a destination network device** (paragraphs [0021], [0031]); **and**

allowing traffic to travel along the primary path when the failure is no longer detected (paragraph [0020]).

Independent claim 17 reads as follows:

17. A network device comprising:

means for detecting a failure along an ingress region of a primary path (paragraph [0020]);

means for re-routing traffic from the primary path associated with an original IP address to an alternate path which includes the device using a forwarding table that includes Internet Protocol (IP) and Multi-Protocol Label Switched (MPLS) routing information (paragraph [0020]) **while associating the original IP address to the alternate path upon detection of the failure** (paragraph [0020]); **and**

means for allowing traffic to travel along the primary path when the failure is no longer detected (paragraph [0020]).

Independent claim 21 reads as follows:

21. A network device comprising:

means for receiving a failure message (paragraph [0020]);

means for re-routing traffic from a primary path associated with an original IP address to an alternate path using a forwarding table

that includes IP and MPLS routing information (paragraph [0020]), **said means for re-routing maintaining the original address, the alternate path comprising devices which maintain a same quality of service as the primary path** (paragraph [0032]) **and are not a part of the primary path except for the network device and a destination network device** (paragraphs [0021], [0031]); **and**

means for allowing traffic to travel along the primary path when the failure is no longer detected (paragraph [0020]).

In order to make the overview set forth above concise the disclosure that has been included, or referred to, above only represents a portion of the total disclosure set forth in the Specification that supports the independent claims.

(ii). The Remainder of the Specification Also Supports the Claims

The Appellants note that there may be additional disclosure in the Specification that also supports the independent and dependent claims. Further, by including the specification citations in parenthesis above the Appellants do not represent that this is the only evidence that supports the independent claims nor do Appellants necessarily represent that these citations alone can be used to fully interpret the claims of the present invention. Instead, the citations provide background support as an overview of the claimed subject matter.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

Appellants seek the Board's review and reversal of the rejection of claims 1-24 under 35 U.S.C. §102(e) based on Kanakubo and claims 1, 5, 9, 13, 17 and 21 under 35 U.S.C. §102(e) based on Dantu.

VII. ARGUMENTS:

A. The Section 102 Rejections Based on Kanakubo

(i) claims 1, 9, 17 and their dependent claims

Each of claims 1, 9 and 17 recites (using different language) the feature of detecting a failure along an "ingress region" of a primary path. Kanakubo is simply not pertinent. This is because, as clearly shown in Fig. 1 of Kanakubo (which is the portion of the reference asserted by the Examiner), the "fault occurrence *a1*" occurs in a LSP between the intermediate router LSR-F 3 and the destination router LSR 6. Thus, Kanakubo's disclosed fault occurs outside of the ingress region between the source router LSR-P 1 and the neighboring router LSR 2 and does not involve the neighboring router LSR 2.

In the Final Office Action the Examiner nonetheless argues that the claims do not recite "exactly where" the failure occurs, or what consists of an "ingress region." While that may be so, such a definition is not required in the claims, so long as it is clear that the fault discussed in Kanakubo falls outside what could reasonably be interpreted as Kanakubo's ingress region. Moreover, the Examiner's interpretation of the term "ingress region" as meaning the region of the path between an intermediate router and a destination router is unreasonable, and inconsistent with the plain meaning of the words and the explanation provided by the Appellants for the term "ingress region."

Furthermore, each of claims 1, 9 and 17 recites (in different formats again) a device that re-routes traffic and uses a forwarding table. That is, the device performing the re-routing and the device using the forwarding table are one in the same. Thus, Kanakubo, which uses multiple devices to re-route and use forwarding tables, is simply not pertinent. For example, on the one hand, and with reference to Fig. 1 of Kanakubo, the intermediate router LSR-F 3 retrieves and uses an LSP fault indication retrieval table (compared by the Examiner to the claimed forwarding table). On the other hand, the source router LSR-P 1 re-routes traffic based on the content of a fault indication

message *a3* from the intermediate router LSR-F 3. Certainly then, Kanakubo's routers LSR-F 3 and LSR-P 1 are two separate and distinct devices.

(ii) claims 5, 13 and 21

Each of claims 5, 13 and 21 recite (again, using different language) the feature of re-routing traffic from a primary path to an alternate path which includes devices that maintain the same quality of service as the primary path. Appellants believe Kanakubo is not pertinent for at least the following reasons. For example, Kanakubo does not disclose the claimed alternate path. Nowhere in the excerpts relied on by the Examiner is there mention of a quality of service (QoS) with respect to an alternative path, nor is maintenance of the same QoS implied by a "predefined static LSP," as the Examiner so alleges.

Claims 5 and 21 are also believed patentable because each one recites (using different language) that the device re-routes traffic and uses a forwarding table. That is, the device performing the re-routing and the device using the forwarding table are one in the same. Thus, Kanakubo, which uses multiple devices to re-route and use the forwarding table, is simply not pertinent (see the rationales set forth above with respect to claims 1, 9 and 17).

Claim 13 is also believed to be patentable over Kanakubo because it recites (as amended) a method that involves receiving a failure message, and then re-routing traffic using a forwarding table. That is, a forwarding table is used after receiving a failure message. Kanakubo is not pertinent because it in fact teaches a reverse sequence of steps. Specifically, and with reference to Fig. 1 of Kanakubo, the intermediate router LSR-F 3 detects a fault occurrence *a1*, uses an LSP fault indication retrieval table (compared by the Examiner to the claimed forwarding table), and prepares and forwards a fault indication message *a3* to the source router LSR-P 1. Subsequently, the source router LSR-P 1 receives the message *a3* and re-routes traffic. Thus, according to Kanakubo's disclosure, the table is used before (not after) receipt of a failure message.

B. The Section 102 Rejections Based On Dantu

Appellants have amended claims 5, 13 and 21 by respectively incorporating the subject matter of claims 6, 14 and 22. Accordingly, each of claims 5, 13 and 21 recites the feature of allowing traffic to travel along the primary path when the failure is no longer detected. Dantu is simply not pertinent to this feature, as recognized by the Examiner.

Conclusion:

Appellants respectfully request that members of the Board reverse the decisions of the Examiner and allow claims 1, 3-5, 7-9, 11-13, 15-17, 19-21, 23 and 24.

The Commissioner is authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 50-3777 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

Capitol Patent & Trademark Law Firm, PLLC

By: /John E. Curtin/

John E. Curtin, Reg. No. 37,602

P.O. Box 1995
Vienna, VA 22183
(703)266-3330

VIII. CLAIMS APPENDIX

1. A network device operable to:

detect a failure along an ingress region of a primary path;

re-route traffic from the primary path associated with an original Internet Protocol (IP) address to an alternate path which includes the device using a forwarding table that includes IP and Multi-Protocol Label Switched (MPLS) routing information while associating the original IP address to the alternate path upon detection of the failure; and

allow traffic to travel along the primary path when the failure is no longer detected.

2. (Canceled).

3. The device of claim 1 wherein, the device is a multi-protocol label switched (MPLS) device and the primary and alternate paths are label switched paths (LSPs).

4. The device of claim 1 wherein the failure is at a neighboring network device or along a link between the device and the neighboring network device.

5. A network device operable to:

receive a failure message;

re-route traffic from a primary path associated with an original IP address to an alternate path using a forwarding table that includes IP and MPLS routing information, said rerouting maintaining the original address, the alternate path comprising devices which maintain a same quality of service as

the primary path and are not a part of the primary path except for the network device and a destination network device; and

allow traffic to travel along the primary path when the failure is no longer detected.

6. (Canceled).

7. The device of claim 5 wherein, the network device is a MPLS device and the primary and alternate paths are LSPs.

8. The device of claim 5 wherein, the quality of service is associated with at least one of the set consisting of bandwidth, delay, delay jitter, and packet loss rate.

9. A method for re-routing traffic comprising the steps of:

detecting a failure along an ingress region of a primary path;

re-routing traffic from the primary path associated with an original IP address to an alternate path which includes a source device using a forwarding table that includes IP and MPLS routing information while associating the original address to the alternate path upon detection of the failure; and

allowing traffic to travel along the primary path when the failure is no longer detected.

10. (Canceled).

11. The method of claim 9 wherein the primary and alternate paths are LSPs.

12. The method as in claim 9 wherein the failure is at a neighboring network device or along a link between the initiating device and the neighboring network device.

13. A method for re-routing traffic comprising the steps of:

receiving a failure message;

after said receiving step, re-routing traffic from a primary path associated with an original IP address to an alternate path using a forwarding table that include IP and MPLS routing information, said rerouting maintaining the original address, the alternate path comprising devices which maintain a same quality of service as the primary path and are not a part of the primary path except for an initiating network device and a destination network device; and

allowing traffic to travel along the primary path when the failure is no longer detected.

14. (Canceled).

15. The method of claim 13 wherein the primary and alternate paths are LSPs.

16. The method of claim 13 wherein, the quality of service is associated with at least one of the set consisting of bandwidth, delay, delay jitter, and packet loss rate.

17. A network device comprising:

means for detecting a failure along an ingress region of a primary path;

means for re-routing traffic from the primary path associated with an original IP address to an alternate path which includes the device using a forwarding table that includes Internet Protocol (IP) and Multi-Protocol Label Switched (MPLS) routing information while associating the original IP address to the alternate path upon detection of the failure; and

means for allowing traffic to travel along the primary path when the failure is no longer detected.

18. (Canceled).

19. The device of claim 17 wherein the device is a MPLS device and the primary and alternate paths are LSPs.

20. The device of claim 17 wherein the failure is at a neighboring network device or along a link between the device and the neighboring network device.

21. A network device comprising:

means for receiving a failure message;

means for re-routing traffic from a primary path associated with an original IP address to an alternate path using a forwarding table that includes IP and MPLS routing information, said means for re-routing maintaining the original address, the alternate path comprising devices which maintain a same quality of service as the primary path and are not a part of the primary path except for the network device and a destination network device; and

means for allowing traffic to travel along the primary path when the failure is no longer detected.

22. (Canceled).

23. The device of claim 21 wherein, the network device is a MPLS device and the primary and alternate paths are LSPs.

24. The device of claim 21 wherein, the quality of service is associated with at least one of the set consisting of bandwidth, delay, delay jitter, and packet loss rate.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.